

CLAIMS

1. A method of operating a portable computing device comprising:  
determining a location of the portable computing device;  
acquiring digital data associated with the determined location and that can  
permit the portable computing device to interact with a location environment; and  
interacting with the location environment based, at least in part, on the  
acquired digital data.

2. The method of claim 1, wherein said determining comprises:  
accessing one or more hierarchical tree structures each of which comprising  
multiple nodes that represent physical or logical locations; and  
traversing at least one node on the one or more hierarchical tree structures  
to ascertain a device location.

3. The method of claim 2, wherein said accessing comprises locally  
accessing said one or more hierarchical tree structures.

4. The method of claim 2, wherein said accessing comprises accessing  
said one or more hierarchical tree structures from a source that is remote from the  
device.

5. The method of claim 2, wherein said accessing comprises wirelessly  
accessing said one or more hierarchical tree structures.

1       6. The method of claim 1, wherein said determining comprises receiving  
2 location information from multiple different location providers and, based on the  
3 location information, determining the location.

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5       7. The method of claim 1, wherein said determining comprises  
6 wirelessly receiving location information from multiple different location  
7 providers and, based on the location information, determining the location.

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9       8. The method of claim 1, wherein said determining comprises:  
10 receiving location information from multiple different location providers,  
11 the location information pertaining to a current location;  
12 accessing one or more hierarchical tree structures each of which comprising  
13 multiple nodes that represent physical or logical locations; and  
14 traversing at least one node on the one or more hierarchical tree structures  
15 responsive to receiving the location information sufficient to ascertain a device  
16 location.

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18       9. The method of claim 1, wherein the digital data comprises data that is  
19 used to render a Web page.

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21       10. The method of claim 9, wherein said interacting comprises  
22 interacting with the Web page.

1       **11.**     The method of claim 1, wherein the digital data comprises code  
2 download pointers that reference software code that can be wirelessly downloaded  
3 on the device.

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5       **12.**     The method of claim 11, wherein said interacting comprises:  
6 using the code download pointers to access and load the software code on  
7 the device; and  
8 executing the software code on the device.

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10       **13.**    The method of claim 11, wherein said interacting comprises:  
11 using the code download pointers to access and load the software code on  
12 the device; and  
13 executing the software code in a runtime environment on the device.

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15       **14.**    The method of claim 1, wherein the digital data comprises one or  
16 more applets that can be executed on the device.

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18       **15.**    The method of claim 14, wherein said interacting comprises locally  
19 executing the one or more applets.

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21       **16.**    The method of claim 1, wherein said acquiring comprises wirelessly  
22 acquiring the digital data via the Internet.

1 17. A portable computing device programmed with instructions that  
2 implement the method of claim 1.

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4 18. A handheld portable computing device programmed with  
5 instructions that implement the method of claim 1.

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7 19. One or more computer-readable media having computer-readable  
8 instructions thereon which, when executed by a computer, implement the method  
9 of claim 1.

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11 20. A method of operating a portable computing device comprising:  
12 determining a location of the portable computing device by accessing one  
13 or more hierarchical tree structures comprising multiple nodes that represent  
14 physical or logical locations; and traversing at least one node on the one or more  
15 hierarchical tree structures to ascertain a device location;  
16 acquiring one or more applets associated with the determined location; and  
17 locally executing the one or more applets sufficient to interact with a  
18 location environment.

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20 21. The method of claim 20 further comprising maintaining an applet  
21 cache in which applets can be cached for use on the device.  
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1       **22.**    The method of claim 21 further comprising removing one or more  
2 applets when a device location changes such the one or more applets are no longer  
3 needed.

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5       **23.**    The method of claim 20, wherein said acquiring comprises  
6 generating a query that is configured to identify one or more applets that are  
7 associated with the location.

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9       **24.**    The method of claim 20, wherein said acquiring comprises querying  
10 a server to ascertain one or more applets that are associated with the location and  
11 that provide a location-specific service.

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13       **25.**    The method of claim 24 further comprising receiving a response  
14 from the server that contains digital data associated with services that are provided  
15 for that location.

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17       **26.**    The method of claim 25, wherein the digital data comprises one or  
18 more URLs that are associated with applets that can be executed for that location.

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20       **27.**    The method of claim 25, wherein the digital data comprises one or  
21 more applets that can be executed for that location.

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23       **28.**    A portable computing device programmed with instructions that  
24 implement the method of claim 20.

1       **29.**   A handheld computing device programmed with instructions that  
2 implement the method of claim 20.

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4       **30.**   One or more computer-readable media having computer-readable  
5 instructions thereon which, when executed by a computer, implement the method  
6 of claim 20.

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8       **31.**   One or more computer-readable media having computer-readable  
9 instructions thereon which, when executed by a portable computer device, cause  
10 the computing device to:

11       determine its location;

12       generate a service query that is configured to identify services that are  
13 associated with the location;

14       wirelessly send the query to one or more servers;

15       receive a response from the one or more servers that contains digital data  
16 associated with applets that can be executed by the device and that provide a  
17 location-specific service; and

18       locally execute the one or more applets to interact with a location  
19 environment.  
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32. The computer-readable media of claim 31, wherein the instructions cause the portable computing device to determine its location by accessing one or more hierarchical tree structures each of which comprising multiple nodes that represent physical or logical locations, and traversing at least one node on the one or more hierarchical tree structures to ascertain a device location.

33. The computer-readable media of claim 31, wherein the instructions cause the portable computing device to determine its location by:

receiving location information from multiple different location providers, the location information pertaining to a current location; and

accessing one or more hierarchical tree structures each of which comprising multiple nodes that represent physical or logical locations; and

traversing at least one node on the one or more hierarchical tree structures, based at least in part on the location information, to ascertain a device location.

34. The computer-readable media of claim 31, wherein the response comprises one or more URLs associated with applets that can be executed by the device, and further comprising using the URLs to wirelessly access one or more associated applets.

35. The computer-readable media of claim 31, wherein the instructions cause the portable computing device to:

receive one or more digitally signed applets; and

authenticate the one or more applets prior to executing them on the device.

1       **36.**    The computer-readable media of claim 31, wherein the instructions  
2 cause the portable computing device to maintain an applet cache in which applets  
3 can be cached for future use on the device.

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5       **37.**    The computer-readable media of claim 36, wherein the instructions  
6 cause the portable computing device to remove one or more applets from the  
7 applet cache when a device location changes such that the one or more applets are  
8 no longer needed.

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10       **38.**   A portable computing device embodying the computer-readable  
11 media of claim 31.

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13       **39.**   A handheld computing device embodying the computer-readable  
14 media of claim 31.

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16       **40.**   A computer architecture comprising:  
17       a location service module configured to wirelessly receive location  
18 information and ascertain a location associated with the location information; and  
19       an applet manager operably associated with the location service module and  
20 configured to receive and manage applets that can be wirelessly received and that  
21 pertain to a location that is ascertained by the location service module, the applets  
22 being configured to enable a user of a computer device to interact with a location  
23 environment.  
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1 41. The computer architecture of claim 40 wherein the location service  
2 module is configured to ascertain a location by accessing one or more hierarchical  
3 tree structures each of which comprising multiple nodes that represent physical or  
4 logical locations and traversing at least one node on the one or more hierarchical  
5 tree structures to ascertain a device location.

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7 42. The computer architecture of claim 40 further comprising an applet  
8 runtime environment in which one or more wirelessly received applets can  
9 execute.

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11 43. The computer architecture of claim 40 further comprising an applet  
12 cache in which applets can be cached for use in connection with an ascertained  
13 location.

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15 44. The computer architecture of claim 40 further comprising a network  
16 component configured to establish wireless communication with a network so that  
17 applets can be wirelessly received.

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19 45. A portable computing device embodying the computer architecture  
20 of claim 40.

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22 46. A handheld computing device embodying the computer architecture  
23 of claim 40.  
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1 47. A handheld computing device comprising:  
2 a location service module configured to receive location information and  
3 ascertain a location associated with the location information;  
4 an applet manager operably associated with the location service module and  
5 configured to receive and manage applets that can be wirelessly received and that  
6 pertain to a location that is ascertained by the location service module;  
7 an applet runtime environment in which applets that are received can  
8 execute to enable a user of the device to interact with a location environment;  
9 an applet cache in which applets can be cached for use in connection with  
10 an ascertained location; and  
11 a network component configured to establish wireless communication with  
12 a network so that applets can be wirelessly received.

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14 48. The computing device of claim 47, wherein the location service  
15 module is configured to ascertain a location by accessing one or more hierarchical  
16 tree structures each of which comprising multiple nodes that represent physical or  
17 logical locations, and traversing at least one node on the one or more hierarchical  
18 tree structures to ascertain a device location.  
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